AMENDMENT TO THE CLAIMS

1. (Currently Amended) A method of identifying a noise environment in which a noisy input signal was generated, the method comprising:

identifying frames of the noisy input signal;

generating a noisy input feature vector for the signal in each frame; ~~and~~

for each frame, making a separate identification of a noise environment in which the noisy input feature vector for the current frame was generated based on the noisy input feature vector;

dividing a feature vector space associated with the environment into sub-spaces by sequentially dividing the feature vector space using a set of boundary conditions;

comparing the noisy input feature vectors with at least one of the boundary conditions to identify a closest codeword of a set of codewords associated with the environment; and

selecting a correction vector associated with the closest codeword to apply to the noisy input feature vector to produce a clean feature vector.

2. (Original) The method of claim 1 wherein identifying a noise environment comprises determining a probability of each of a set of environments based in part on the noisy input feature vector.

3. (Original) The method of claim 2 wherein determining a probability of an environment comprises determining a filtered probability of an environment for a current frame based in part on the probability of the environment for at least one previous frame.

4. (Original) The method of claim 3 wherein determining the filtered probability of an environment for a current frame comprises:

determining an unfiltered probability of the environment based on the current noisy input feature vector;

determining the probability of the environment based on at least one previous noisy input feature vector;

applying weights to the probabilities to form weighted probabilities; and

combining the weighted probabilities to determine the filtered probability of the environment for the current frame.

5. (Original) The method of claim 4 wherein identifying a noise environment further comprises comparing the probability of each environment for the current frame and selecting the most probable environment as the identified noise environment.

6. (Original) The method of claim 4 wherein identifying a noise environment further comprises:

for each noise environment, counting the number of frames in a set of previous frames in which the noise environment had the highest filtered probability; and

selecting the noise environment with the highest count as the identified noise environment for the current frame.

7. (Original) The method of claim 3 wherein identifying a noise environment further comprises:

for each noise environment, counting the number of frames in a set of previous frames in which the noise environment was the most probable noise environment; and

selecting the noise environment with the highest count as the identified noise environment for the current frame.

8. (Original) The method of claim 2 wherein determining a probability for an environment comprises determining the distance between the input noisy feature vector and a codeword associated with the environment.

9. (Original) The method of claim 8 wherein determining a probability for an environment further comprises determining the distribution of a set of noisy training feature vectors associated with the codeword.

10. (Original) The method of claim 9 wherein the noisy training feature vectors are formed by modifying clean training feature vectors.

11. (Original) The method of claim 10 wherein modifying clean training feature vectors comprises:

convolving the clean training feature vectors with a set of channel distortion feature vectors to produce distorted training feature vectors; and

adding additive noise feature vectors to the distorted training feature vectors to produce the noisy training feature vectors.

12-14. Cancelled

15. (Currently Amended) The method of claim ~~12~~1 wherein the clean feature vector is a clean training feature vector.

16. (Original) The method of claim 15 wherein the clean training feature vector is used to construct a model for pattern recognition.

17. (Currently Amended) The method of claim ~~12~~1 wherein the clean feature vector is a clean input feature vector.

18. (Original) The method of claim 17 wherein the clean input feature vector is applied to a pattern recognition model to identify a pattern.

19-32. Cancelled